

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A method for starting an internal combustion engine with at least a valve that may be held in a position for a cycle of a cylinder, the method comprising:

closing at least an exhaust valve of at least a cylinder in said engine in response to a request to start said engine;

opening said exhaust valve after a combustion event in said at least a cylinder; and

varying the number or pattern of operating valves in at least a cylinder of said engine after said combustion event.

2. (withdrawn) The method of Claim 1 wherein said exhaust valve is a valve that may be mechanically held in position.

3. (previously presented) The method of Claim 1 wherein said exhaust valve is an electrically actuated valve.

4. (original) The method of Claim 1 wherein said exhaust valve is closed before said engine begins to rotate and maintained closed until after a combustion event in said cylinder occurs, and then the valve is opened.

5. (previously presented) The method of Claim 1 wherein an operator activating a switch generates said request.

6. (previously presented) The method of Claim 1 wherein said request is made by a signal generated remotely from a vehicle.

7. (previously presented) The method of Claim 1 wherein all exhaust valves are maintained closed until after a respective combustion event for said respective exhaust valve.

8. (currently amended) A method for starting an internal combustion engine with at least a valve that may be held in a position for a cycle of a cylinder, the method comprising:

closing at least an exhaust valve in at least a cylinder of said engine in response to a request to start said engine;

determining engine position in response to said request;

injecting fuel to said cylinder based on said determined engine position;

combusting said injected fuel in said cylinder;

maintaining said exhaust valve closed until after combustion of said injected fuel in said cylinder; and

varying the number or pattern of operating valves in at least a cylinder of said engine, during a cycle of said cylinder, after said combustion event.

9. (withdrawn) The method of Claim 8 wherein said exhaust valve is a valve that may be mechanically held in position.

10. (previously presented) The method of Claim 8 wherein said exhaust valve is an electrically actuated valve.

11. (previously presented) The method of Claim 8 wherein an operator activating a switch generates said request.

12. (previously presented) The method of Claim 8 wherein said request is signal generated remotely from a vehicle.

13. (original) The method of Claim 8 wherein said injected fuel produces a lean air-fuel mixture in said cylinder.

14. (original) The method of Claim 8 wherein said injected fuel produces a rich air-fuel mixture in said cylinder.

15. (original) The method of Claim 8 wherein said injected fuel produces a stoichiometric air-fuel mixture in said cylinder.

16. (previously presented) A method for starting an internal combustion engine with electrically actuated valves, the method comprising:

closing at least an exhaust valve of said engine in response to a request to start said engine;

opening at least an intake valve of said engine in response to said request;

rotating engine in response to said request;

closing said at least one intake valve;

injecting fuel to said at least a cylinder of said engine;

combusting said fuel in said at least a cylinder of said engine; and

operating said at least an exhaust valve in said at least a cylinder after said combustion in said at least a cylinder.

17. (cancelled)

18. (original) The method of Claim 16 wherein said injected fuel produces a lean air-fuel mixture in said at least a cylinder.

19. (original) The method of Claim 16 wherein said injected fuel produces a rich air-fuel mixture in said at least a cylinder.

20. (original) The method of Claim 16 wherein said injected fuel produces a stoichiometric air-fuel mixture in said at least a cylinder.

21. (previously presented) A method for starting an internal combustion engine with electrically actuated valves, the method comprising:

closing at least an intake valve of at least a cylinder in said engine in response to a request to start said engine;

opening at least an exhaust valve of said at least a cylinder in said engine in response to said request;

closing said at least an exhaust valve in said at least a cylinder before a first air induction event in said at least a cylinder;

injecting fuel to said at least a cylinder;

opening said at least an intake valve in said at least a cylinder, inducting an air amount;

combusting said injected fuel in said at least a cylinder; and

opening said at least an exhaust valve in said at least a cylinder after said combustion in said at least a cylinder.

22. (original) The method of Claim 21 wherein said injected fuel produces a lean air-fuel mixture in said at least a cylinder.

23. (original) The method of Claim 21 wherein said injected fuel produces a rich air-fuel mixture in said at least a cylinder.

24. (original) The method of Claim 21 wherein said injected fuel produces a stoichiometric air-fuel mixture in said at least a cylinder.

25. (currently amended) A computer readable storage medium having stored data representing instructions executable by a computer to control an internal combustion engine of a vehicle, said storage medium comprising:

instructions for closing at least an exhaust valve of at least a cylinder in said engine in response to a request to start said engine, and maintaining said exhaust valve closed during rotation of said engine until after a combustion event in said cylinder; and

instructions for varying the number or pattern of operating valves in at least a cylinder of said engine after said combustion event.

26. (previously presented) The method of Claim 2 wherein said electrically actuated valve is an electromechanical valve.

27. (previously presented) The method of Claim 10 wherein said electrically actuated valve is an electromechanical valve.

28. (withdrawn) A method for starting an internal combustion engine with at least a valve that may be held in a position during a cycle of said cylinder, the method comprising:

maintaining a mechanically actuated exhaust valve in a closed position in at least a cylinder of said engine, during at least a portion of an exhaust stroke of said at least a cylinder, prior to a first combustion event; and

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opening said mechanically actuated exhaust valve after a first combustion event in said at least a cylinder.

29. (previously presented) The method of Claim 1 wherein said varying the number or pattern of operating valves, operates said engine in a multi-stroke cylinder mode.

30. (previously presented) The method of Claim 1 wherein said varying the number or pattern of operating valves, operates said engine in a cylinder deactivation mode.

31. (previously presented) The method of Claim 1 wherein said varying the number or pattern of operating valves, changes cylinder charge motion.